2015

GUIDE RSC

Service Manual

SRAM LLC WARRANTY

EXTENT OF LIMITED WARRANTY
Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, or fitness for a particular purpose) are hereby disclaimed.**

LOCAL LAW
This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).

b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

For Australian customers:
This SRAM limited warranty is provided in Australia by SRAM LLC, 1333 North Kingsbury, 4th floor, Chicago, Illinois, 60642, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITATIONS OF LIABILITY
To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

LIMITATIONS OF WARRANTY
This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, rockshox.com, avidbike.com, truvativ.com, or zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- Dust seals
- Bushings
- Air sealing o-rings
- Glide rings
- Rubber moving parts
- Foam rings
- Rear shock mounting hardware and main seals
- Upper tubes (stanchions)
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake sleeves
- Brake pads
- Chains
- Sprockets
- Cassettes
- Shifter and brake cables (inner and outer)
- Handlebar grips
- Shifter grips
- Jockey wheels
- Disc brake rotors
- Wheel braking surfaces
- Bottomout pads
- Bearings
- Bearing races
- Pawls
- Transmission gears
- Spokes
- Free hubs
- Aero bar pads
- Corrosion
- Tools
- Motors
- Batteries

Notwithstanding anything else set forth herein, this warranty is limited to one year for all electronic and electronic related components including motors, controllers, battery packs, wiring harnesses, switches, and chargers. The battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

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SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing SRAM products.
Protect yourself! Wear your safety gear!

SAFETY INSTRUCTIONS

- Always wear safety glasses and nitrile gloves when working with DOT fluid.
- Place an oil pan on the floor underneath the area where you will be working on the brake.
- Used DOT fluid should be recycled or disposed of in accordance to local and federal regulations.
- Never pour DOT fluid down a sewage or drainage system or into the ground or a body of water.
- DOT fluids will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.
- Do not allow any brake fluid to come in contact with the brake pads. If this occurs, the pads are contaminated and must be replaced.
- For best results, use only Avid High-Performance 5.1 DOT Fluid. If Avid fluid is not available, only use DOT 5.1 or 4 fluid. **Do not use mineral oil or DOT 5 fluid.**

Brake Service Overview

SRAM brake systems need to be serviced periodically to optimize braking function. If brake fluid is leaking from any area of the brake, there may be damage or wear and tear to the internal moving parts. If the system has been contaminated with the wrong fluid, there may be damage to all rubber and plastic internal parts. If your brake was damaged in a crash, there may be damage to the lever blade, pushrod, and housing assemblies. Inspect and replace these parts to restore proper brake function.

Your product's appearance may differ from the pictures contained in this publication.

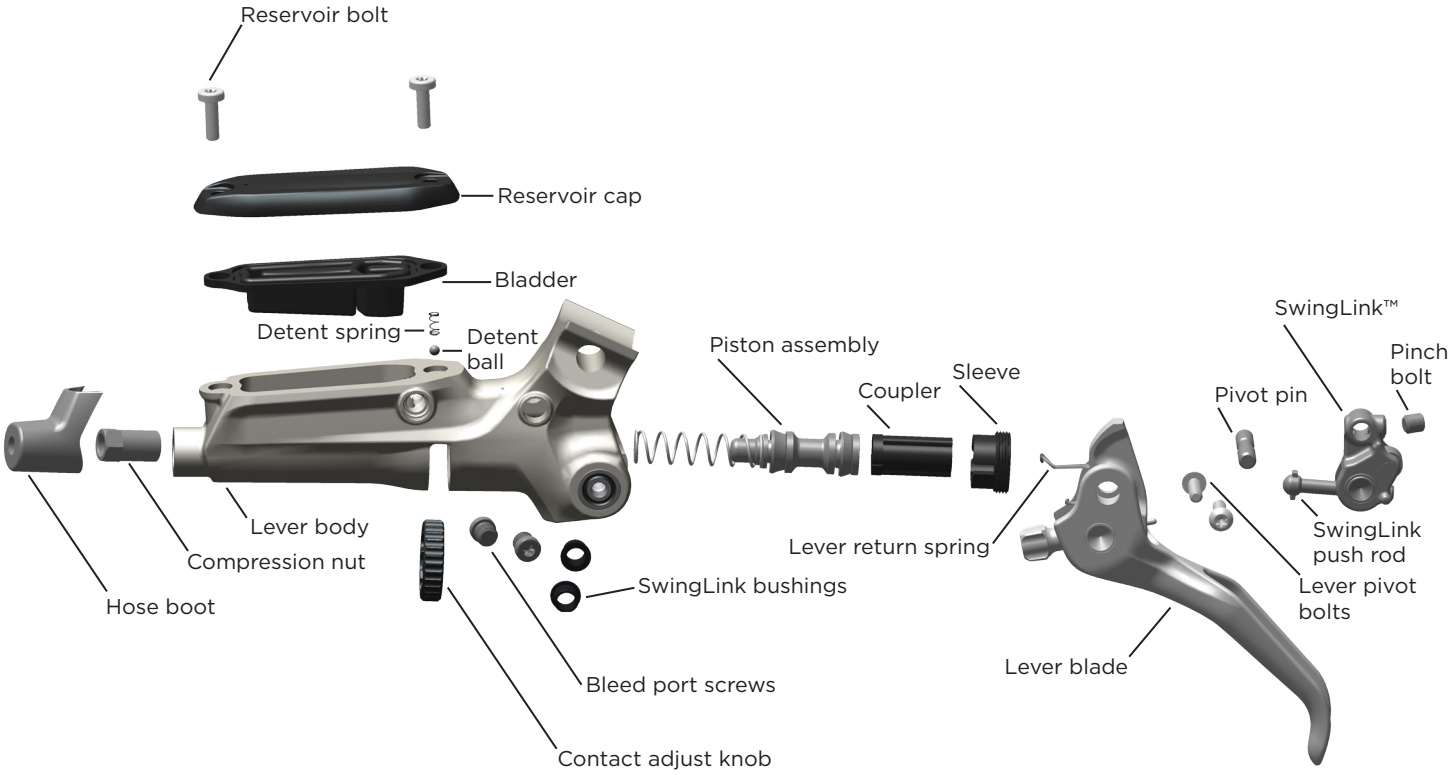
Lever Service

Parts and Tools Needed for Service

- Safety glasses
- Nitrile gloves
- Oil pan
- Isopropyl alcohol
- Clean, lint-free rag
- Avid High-Performance 5.1 DOT Fluid or DOT 4 Fluid, or Avid DOT Grease
- Needle nose pliers
- 242® Blue Loctite®
- Pick with a 90 degree bent tip
- T8 , T10, & T25 TORX® wrench
- T8 & T10 TORX® bit socket
- 8 mm flare nut wrench
- 2 mm & 4 mm hex wrench
- Torque wrench
- SRAM® Guide Lever Internals Assembly Tool
  (for setting pushrod distance and installing internals)

SRAM Guide Lever Internals Assembly Tool

Guide RSC Exploded View



Lever Blade Removal

NOTICE

DOT fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.

1 Use a T25 TORX® wrench or a 4 mm hex wrench to remove the brake clamp bolt from the discrete clamp, MMX, or XLoc™ (XLoc requires removal of the shifter) and remove the brake lever from the handlebar.

2 Pull the hose boot off the compression nut and slide it down the hose.

3 Use an 8 mm flare nut wrench to remove the hose compression nut.

Pull the brake hose and compression fitting from the brake lever body.

8 mm flare nut wrench

4 Pour the brake fluid into an oil pan. Squeeze the lever blade to pump out the excess brake fluid from inside the lever body.

NOTICE

If the system has been contaminated with mineral oil or DOT 5 fluid, flush all the parts with soapy water, rinse, and allow all parts to dry prior to rebuilding. Install all new seals and a new hose.

For best results, use only Avid High-Performance DOT 5.1 fluid. If Avid fluid is not available, only use DOT 5.1 or 4 fluid.

5 Use a T10 TORX® wrench to remove the reservoir cap bolt nearest to the lever blade.

T10 TORX wrench

6 Carefully turn the lever body upside down so that the detent spring and ball fall out of the lever body. If they do not initially fall out, gently tap the lever against a clean rag.

7 Use a T10 TORX® wrench to remove the remaining reservoir cap bolt.

T10 TORX wrench

8 Remove the reservoir cover and bladder from the lever body.

9 Pour the fluid from the brake lever body into a pan.

10 Separate the bladder from the reservoir cover.

Spray isopropyl alcohol on the bladder and the reservoir cover and clean them with a rag.

NOTICE

All components must be completely dry before reinstalling them. Moisture residue from cleaning the bladder can leak out of the bladder as it dries, which can be misinterpreted as a system leak, when it is not.

11 Use a T10 TORX® wrench to remove the lever pivot bolts.

T10 TORX wrench

12 Remove the lever blade.

Piston Assembly Removal

1 Use a T8 TORX® wrench to remove the SwingLink™ pinch bolt.

T8 TORX wrench

2 Use a T8 TORX® wrench to push the SwingLink pivot pin out of the lever body.

T8 TORX wrench

3 Use a T8 TORX® wrench to remove the SwingLink.

T8 TORX wrench

T8 TORX wrench

4 Remove the SwingLink™ bushings by hand.

5 Use a SRAM Guide Lever Internals Assembly Tool to unthread the piston sleeve and coupler. Insert the SRAM Guide Lever Internals Assembly Tool into the lever body and align the keyslot of the tool with the piston sleeve. Use the tool to unthread the sleeve and remove the sleeve and coupler.

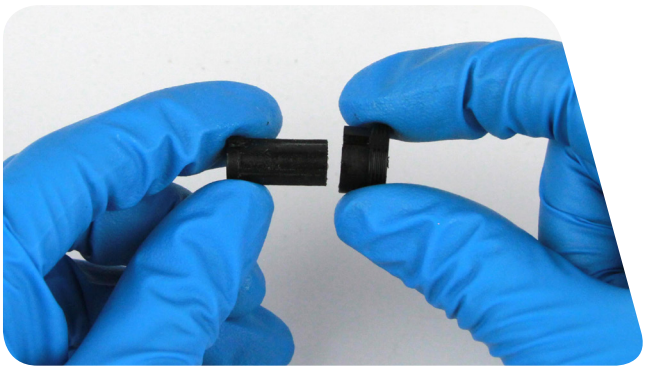
If the piston sleeve and coupler are stuck in the lever body use needle nose pliers to gently remove.

SRAM Guide Lever Internals Assembly Tool

SRAM Guide Lever Internals Assembly Tool

6 Remove the sleeve from the coupler by hand.

Spray isopropyl alcohol on both the sleeve and the coupler and clean them with a rag.



7 Place a rag over the lever body to prevent the piston assembly spring from forcefully ejecting.

Use your hand to push out the contact knob.

CAUTION - EYE HAZARD

Use safety glasses.

The piston assembly is spring loaded and will forcefully eject from the lever body when the contact knob is removed.

8 Remove the piston assembly from the lever body.

9 Spray isopropyl alcohol on the lever body and the lever blade and clean them with a rag.

Piston Assembly Installation

NOTICE

DOT fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.

1 Submerge the new piston assembly in Avid High-Performance 5.1 DOT Fluid by hand.

You can also use Avid DOT Grease, or DOT 5.1 or 4 compatible grease, as a lubricant.

Avid High-Performance 5.1 DOT Fluid

2 Install the new lubricated piston assembly into the lever body.

Spray isopropyl alcohol on the lever body and both of your gloves and clean with a rag.

3 Use the SRAM Guide Lever Internals Assembly Tool to press the piston into the lever body while inserting the contact adjust knob into the contact adjust slot.

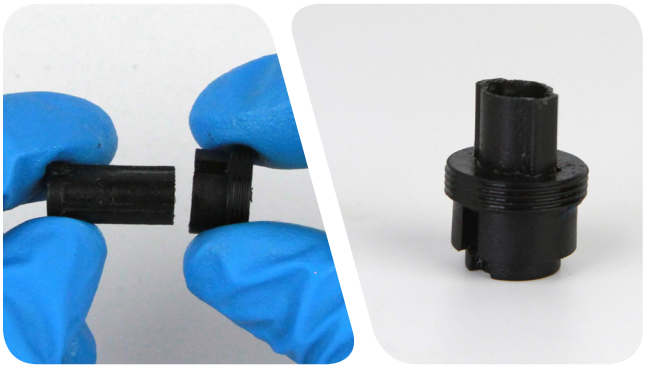
You should hear a pop sound when the contact knob is fully seated in place.

SRAM Guide Lever Internals Assembly Tool

SRAM Guide Lever Internals Assembly Tool

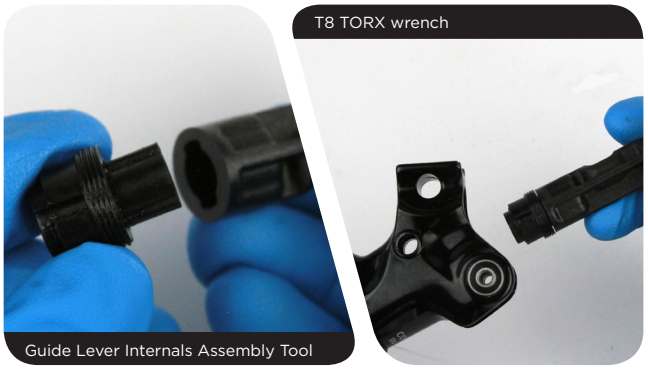
4 Use your hand to place the sleeve on the coupler.

The sleeve threads must be oriented away from the base of the coupler.



5 Use the SRAM Guide Lever Internals Assembly Tool tool to engage and thread the sleeve and coupler onto the piston assembly.

Engage the slots on the sleeve with the contact adjust knob and continue to thread the SRAM Guide Lever Internals Assembly Tool tool in a clockwise rotation until it stops.



6 Use needle nose pliers to install the SwingLink™ bushings.

If the SwingLink bushings fall out easily, apply a small amount of grease to the bushings to help hold them in place.

7 Place the SwingLink™ onto the SRAM Guide Lever Internals Assembly Tool to adjust the length of the push rod on the SwingLink.

SRAM Guide Lever Internals Assembly Tool

8 Use a 2 mm hex wrench to tighten the push rod into the SwingLink.

SRAM Guide Lever Internals Assembly Tool 2 mm hex wrench

9 Use a 2 mm hex wrench to remove the SwingLink from the SRAM Guide Lever Internals Assembly Tool and place the pushrod into the coupler sleeve.

SRAM Guide Lever Internals Assembly Tool 2 mm hex wrench

SRAM Guide Lever Internals Assembly Tool 2 mm hex wrench

10 Align the holes of the SwingLink™ and the SwingLink bushings, then press the pivot pin into the hole until it is flush with the lever body.

11 Apply a small amount of 242® Blue Loctite® onto the pinch bolt.

Use a T8 TORX® wrench to thread the SwingLink pinch bolt into the lever body. Use a torque wrench and a T8 TORX® bit socket to torque the bolt to 2.7-3.2 N·m (24-28 in-lb).

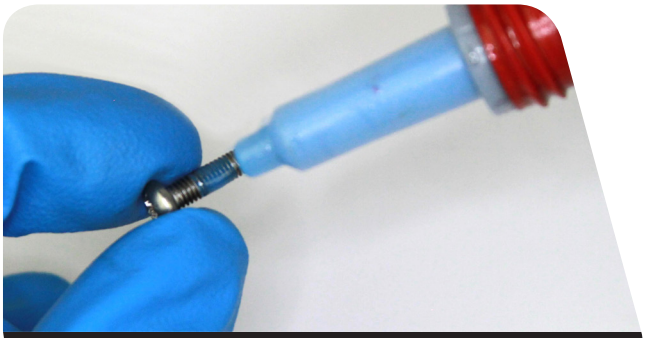
Lever Blade Installation

1 Use your hand to install the lever blade.

Line up the pivot holes of the lever blade with the pivot holes in the lever body.

Make sure your lever return spring is seated properly in the lever. The outboard end of the spring must press against the lever blade, while the inboard end of the springs must press against the lever body. If the return spring is not seated properly, you will not be able to adjust the reach of the lever blade.

2 Apply a small amount of 242® Blue Loctite® onto each pivot bolt.



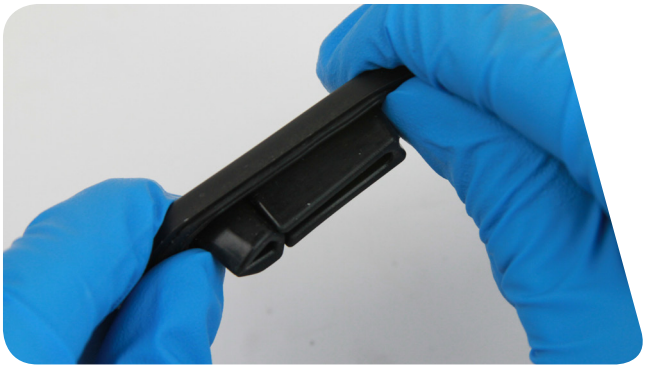
242 Blue Loctite

3 Use a T10 TORX® wrench to thread each pivot bolt into the bearings on each side of the lever body.

T10 TORX wrench

4 Use a torque wrench and a T10 TORX® bit socket to tighten each pivot bolt to 2.7-3.2 N·m (24-28 in-lb).

5 Press the bladder into the reservoir cap, make sure the bladder is properly seated into the reservoir cap. The bladder should be flush with the cap.



6 Insert the reservoir cap/bladder assembly onto the lever body.

7 Use your fingers to install the detent ball followed by the detent spring into the lever body reservoir hole closest to the lever blade.

8 Use a torque wrench and a T10 TORX® bit socket to tighten each reservoir cap bolt to 2.7-3.2 N·m (24-28 in-lb).

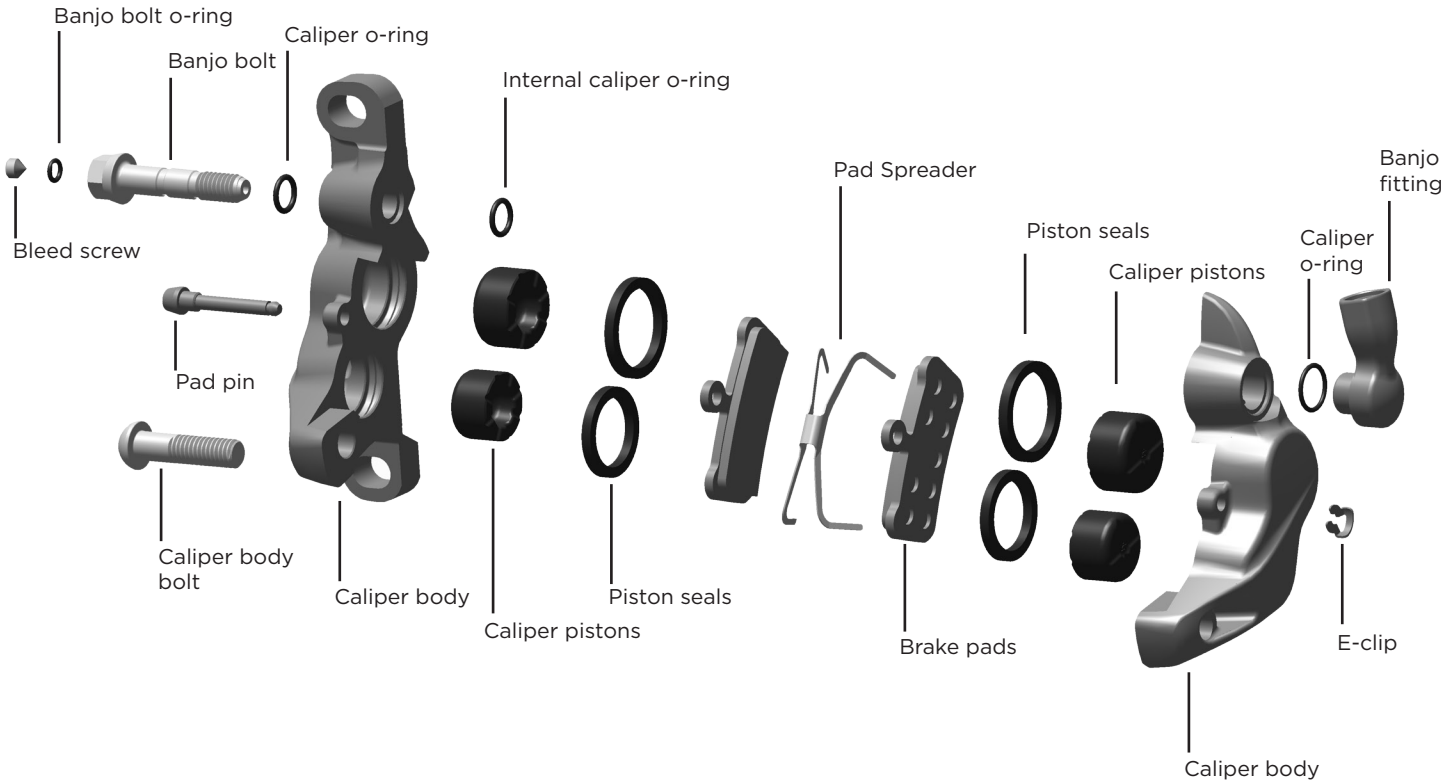
9 Spray isopropyl alcohol on the lever body and clean it with a rag.

Caliper Service

Parts and Tools Needed for Service

- Safety glasses
- Nitrile gloves
- Oil pan
- Isopropyl alcohol
- Clean, lint-free rag
- Avid High-Performance 5.1 DOT Fluid or DOT 4 Fluid, or Avid DOT Grease or DOT 5.1 or 4 compatible grease
- Air compressor with rubber-tipped blow gun chuck nozzle
- Soft rubber mat or small section of butyl inner tube
- Bleed block
- Needle nose pliers
- Pick with a 90 degree bent tip
- 2.5 mm & 5 mm hex wrench
- 2.5 mm hex bit socket
- T25 TORX® wrench
- T25 TORX® bit socket
- 8 mm open end wrench
- 8 mm flare nut crowfoot
- Torque wrench

Caliper Exploded View



Troubleshooting

'Sticky' or slow brake pad return feel/excessive lever throw

If your brakes feel sticky, and exhibit slow brake pad return and/or excessive brake lever throw, it may be a result of the pistons sticking in the caliper. Before completely disassembling your caliper, you can try to loosen the sticky piston by performing the following steps:

1. Clamp the bicycle into a bicycle work stand.
2. Remove the wheel from the affected caliper.
3. Squeeze the brake lever several times until the brake pads nearly contact one another.
4. Insert the Guide Pad Spreader Clip between the brake pads to spread the pads to the full width of the clip.
5. Remove the Guide Pad Spreader Clip.
6. Repeat steps 3-5 several times.
7. Reinstall the wheel.
8. Squeeze the brake lever several times to position the brake pads to the proper distance from the rotor.
9. Center the caliper on the rotor if necessary.
10. Spin the wheel and check the brake function. The pistons should move freely and there should not be excessive brake lever throw.

If there is no improvement in the brake function, proceed with caliper service.

Caliper Brake Pad Removal

NOTICE

DOT fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.

1 Use a 5 mm hex wrench to remove the brake caliper from the fork or frame.

Remove the caliper mounting bracket and hardware from the caliper then set the parts aside in that order they were removed.

2 Use needle nose pliers to remove the E-clip from the pad pin. Use a 2.5 mm hex wrench to remove the pad pin from the caliper.

3 Push the brake pads out of the caliper.

NOTICE

Brake pads must be replaced if the total thickness of the backing plate and pad friction material is less than 3 mm.

Caliper Piston Removal

NOTICE

DOT fluid will damage painted surfaces. If any fluid comes in contact with a painted surface (i.e. your frame) or printing on the brakes, wipe it off immediately and clean it with isopropyl alcohol or water. Damage to painted and/or printed surfaces by DOT fluid is not covered under warranty.

1 Use an 8 mm open end wrench to remove the banjo bolt.
Set the hose and banjo fitting aside.

8 mm open end wrench

2 Use a T25 TORX® wrench to remove the caliper body bolt.
Allow any fluid from the caliper body to drain into an oil pan.

T25 TORX wrench

3 Separate the caliper body halves.

4 Remove the internal caliper o-ring from the outboard caliper half.

5 Place one of the caliper halves, piston side down, on a soft rubber mat or a small section of inner tube on a flat surface.

Insert a rubber-tipped blow gun chuck nozzle into the banjo port.

CAUTION - EYE HAZARD

Wear safety goggles.

The caliper pistons may dislodge rapidly from the caliper, which can lead to bodily injury or damage to the parts. Point the caliper pistons toward a rubber surface before forcing air into the caliper.

Rubber Rubber-tipped blow gun chuck nozzle

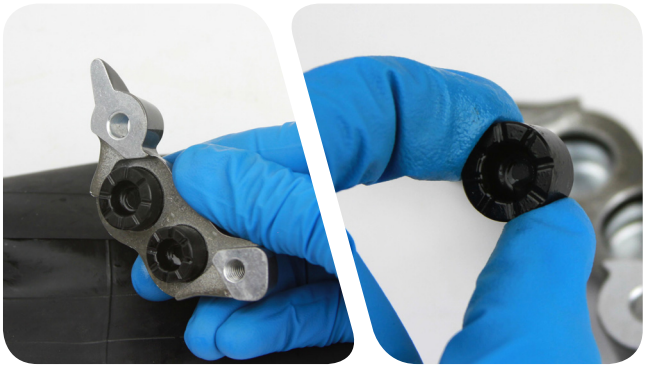
While firmly pushing against the caliper half and chuck nozzle, squeeze the air chuck to force air into the banjo port and dislodge the pistons from the caliper.

Place a rag over the caliper to contain any fluid that may spray.

Continue to force air into the caliper until both pistons dislodge. Do not remove one piston if the other is still seated.

Remove the pistons from the caliper.

Repeat this process for the other caliper half.



6 Use a pick to remove the piston seals from inside each caliper body half. Install new seals inside each caliper body half.

NOTICE

Do not scratch the seal gland with a pick. It could result in a slow fluid leak when the brake is applied.

Caliper Piston Installation

NOTICE

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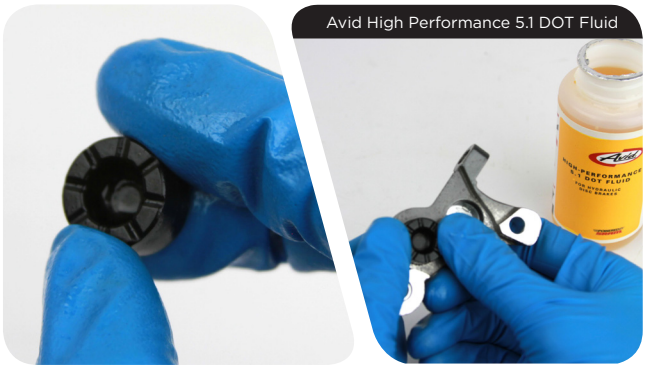
1 Inspect the caliper pistons for damage and replace the pistons if necessary.

To install each piston use your gloved finger to apply a small amount of DOT 5.1 fluid to the circumference of each piston. Install the pistons into each half of the caliper body.

You can also use Avid DOT Grease or DOT 5.1 or 4 compatible grease as a lubricant.

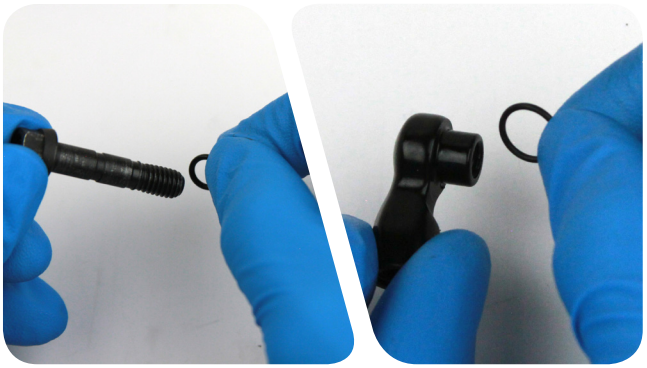


2 Spray isopropyl alcohol on the caliper halves and both of your gloves, and wipe with a rag.

3 Remove the caliper o-ring from the outboard caliper half.

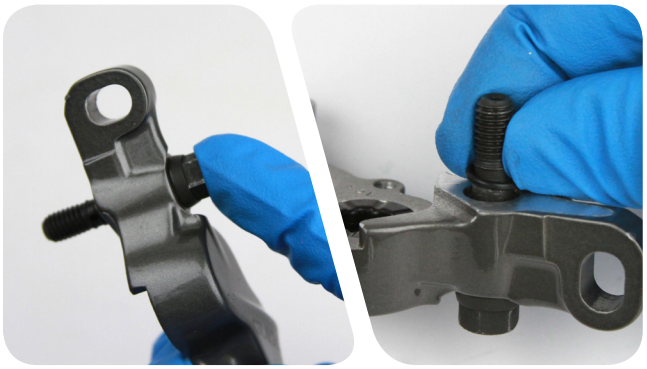
4 Remove the o-rings from the banjo bolt and banjo fitting.

Apply a small amount of DOT 5.1 fluid to the new o-rings and install them.



5 Insert the banjo bolt through the outboard caliper half.

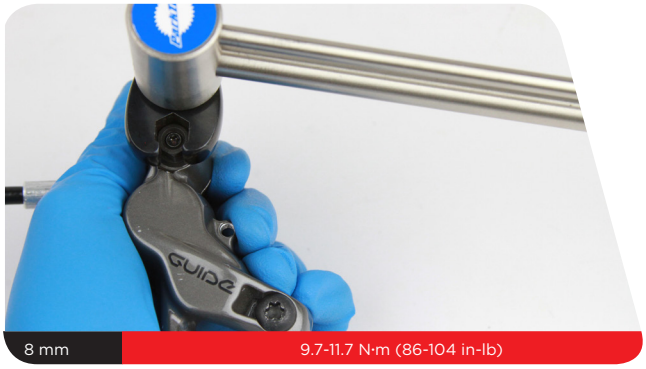
Apply a small amount of DOT 5.1 fluid to the caliper o-ring and install it onto the banjo bolt.



6 Align the banjo fitting with the banjo bolt and thread the bolt, by hand, into the banjo fitting until it stops. Do not tighten the banjo bolt yet.

7 Install the caliper body bolt and use a torque wrench with a T25 TORX® bit socket to tighten the bolt to 9.7-11.7 N·m (86-104 in-lb).

8 Hold the banjo fitting at the desired angle. Use a torque wrench with an 8 mm flare nut crowfoot to tighten the banjo bolt to 9.7-11.7 N·m (86-104 in-lb).



9 Insert the bleed block into the caliper.

NOTICE

You will need to bleed your brakes before reinstalling the brake pads.

10 Spray isopropyl alcohol on the caliper and clean it with a rag.

Visually check your work. If any of the o-rings protrude from the banjo fitting or banjo bolt, remove and replace the o-rings, then repeat the installation process.

NOTICE

Overhauling the caliper removes all of the fluid from the caliper. You must bleed the brakes for optimal performance. For brake bleed, brake hose shortening, and brake pad replacement instructions, visit www.sram.com/service.

Disc Brake Pad and Rotor Bed-in Procedure

All new brake pads and rotors should be put through a wear-in process called 'bed-in'. The bed-in procedure, which should be performed prior to your first ride, ensures the most consistent and powerful braking feel along with the quietest braking in most riding conditions. The bed-in process heats up the brake pads and rotors, which deposits an even layer of brake pad material (transfer layer) to the braking surface of the rotor. This transfer layer optimizes braking performance.

⚠ WARNING - CRASH HAZARD

The bed-in process requires you to perform heavy braking. You must be familiar with the power and operation of disc brakes. Braking heavily when not familiar with the power and operation of disc brakes could cause you to crash, which could lead to serious injury and/or death. If you are unfamiliar with the power and operation of disc brakes, you should have the bed-in process performed by a qualified bicycle mechanic.

To safely achieve optimal results, remain seated on the bike during the entire bed-in procedure. Do not lock up the wheels at any point during the bed-in procedure.

- Accelerate the bike to a moderate speed, then firmly apply the brakes until you are at walking speed. Repeat approximately twenty times.
- Accelerate the bike to a faster speed. Then very firmly apply the brakes until you are at walking speed. Repeat approximately ten times.
- Allow the brakes to cool prior to any additional riding.

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